

REPLACEMENT CROSS-REFERENCE
TO RELATED APPLICATIONS SECTION IN CLEAN FORM

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This application is a continuation of co-pending United States patent application Serial No. 09/738,613, filed December 15, 2000, which application is a continuation-in-part of U.S. patent application Serial No. 09/470,071, filed December 22, 1999, which claims priority to and the benefit of U.S. provisional patent application Serial No. 60/113,761, filed December 23, 1998, and this application is related to the U.S. patent application entitled, "System for Normalizing Spectra" and identified by Attorney Docket Number MDS-020, filed on even date herewith, and to the U.S. patent application entitled, "Spectral Data Classification Of Samples" and identified by Attorney Docket Number MDS-021, filed on even date herewith. All of the above applications are assigned to the common assignee of this application, and are hereby incorporated by reference.

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CLEAN COPY OF ALL PENDING CLAIMS

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24. (New) A method of determining a condition of a test specimen, said method comprising:
determining whether fluorescence spectral data from a test specimen is not definitive of
said test specimen having a known condition;
obtaining reflectance spectral data from said test specimen;
processing said reflectance spectral data of said first test specimen using reference
reflectance spectral data from a plurality of reference specimens having said known condition;
determining said condition of said first test specimen based at least in part on said
processing.

25. (New) The method of claim 24, wherein said test specimen comprises a tissue specimen
and said plurality of specimens comprise a plurality of tissue specimens.

26. (New) The method of claim 25, wherein said tissue comprises human cervical tissue and
said known condition is a known state of health.

27. (New) The method of claim 26, wherein said known state of health comprises one of the
conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

28. (New) The method of claim 24, wherein said reference reflectance spectral data
comprises an average amplitude for each of a plurality of wavelengths.

29. (New) The method of claim 28, wherein said processing comprises determining a
residual amplitude at each of said plurality of wavelengths.

30. (New) The method of claim 29, wherein determining said residual amplitude at each of
said plurality of wavelengths comprises subtracting an average amplitude of said reference
reflectance spectral data from an amplitude of said reflectance spectral data of said test
specimen.

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31. (New) The method of claim 30, wherein determining said condition of said test specimen comprises comparing said residual amplitude at each of said plurality of wavelengths to one or more sets of reference residual reflectance spectral data.

32. (New) The method of claim 24, further comprising,
obtaining additional optical information from said test specimen, and said determining of said condition comprises,
evaluating said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen.

33. (New) The method of claim 32, wherein said additional optical information comprises video information.

34. (New) The method of claim 32, wherein said additional optical information comprises an optical image.

35. (New) The method of claim 32, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

36. (New) The method of claim 35, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

37. (New) The method of claim 36, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

38. (New) A system for determining a condition of a test specimen, said system comprising:
a data collection module adapted for obtaining reflectance spectral data from said test specimen; and

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a computation module adapted for determining whether fluorescence spectral data from a test specimen is definitive of said test specimen having a known condition, in response to determining that said fluorescence spectral data from said test specimen is not definitive, processing said reflectance spectral data of said first test specimen using reference reflectance spectral data from a plurality of reference specimens having said known condition, and determining said condition of said first test specimen based at least in part on said processing.

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39. (New) The system of claim 38, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

40. (New) The system of claim 39, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

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41. (New) The system of claim 40, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

42. (New) The system of claim 38, wherein said data collection module obtains additional optical information from said test specimen, and
said analysis module evaluates said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen in said identifying said state of health of said test specimen.

43. (New) The system of claim 42, wherein said additional optical information comprises video information.

44. (New) The system of claim 42, wherein said additional optical information comprises an optical image.

45. (New) The system of claim 42, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

46. (New) The system of claim 45, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

ay. cont. 47. (New) The system of claim 46, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

48. (New) A method of determining a condition of a test specimen, said method comprising:
determining that a first spectral observation from a test specimen is not definitive of said test specimen having a known condition;

obtaining a second spectral observation from said test specimen, said second spectral observation using information obtained from a different type of spectral data than said first spectral observation;

processing data from said second spectral observation of said test specimen using reference spectral data from a plurality of reference specimens having said known condition;
determining said condition of said test specimen based at least in part on said processing.

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